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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,755	02/17/2004	Danny D. Beaver	D-2511Div1/WOD	9773
7590 William O'Driscoll - 12-1 Trane 3600 Pammel Creek Road La Crosse, WI 54601			EXAMINER KOEHLER, CHRISTOPHER M	
			ART UNIT 3726	PAPER NUMBER
			MAIL DATE 12/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/779,755	<b>Applicant(s)</b> BEAVER, DANNY D.	
	<b>Examiner</b> Christopher M. Koehler	<b>Art Unit</b> 3726	CT

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-13 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-13 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. **Claims 1 and 3-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 29 00 672 A1 (hereinafter '672) in view of Barnes (US5896659).

'672 teaches a method of forming a tube, comprising: feeding a tube **17** from a first point (see for example any point on the tube before **11**) to a second point (see for example **4** in figure 2 above reference numeral **14**) of the tube **17** with the feeder (before **11**) being closer to the first point than the second point, simultaneously bending the tube **17** at the second point (see for example **4** in figure 2 above reference numeral **14**) and at an intermediate point (see for example **4** below reference numeral **18** in figure 2) interposed between the first point and the second point while unwrapping the tube **17** from a feeder (a feeder is to the left of reference numeral **11** in figure 2), and rotating the intermediate point about the second point (see how the tube is bent from figure 2 to figure 3).

'672 teaches the invention cited above with the exception of unwrapping the tube from a feed roll.

Barnes teaches that it is known to unwrap a tube from a feed roll **50** before performing bending operations on a tube **12**.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672 with unwrapping the tube from a feed roll, in light of the teachings of Barnes, in order to provide a continuous supply of tube length to be formed.

Regarding claim 3, note that the tube is formed into a serpentine shape (see figure 3 of '672).

Regarding claims 4-6, see figures 2-3 of '672 where the intermediate point is moved more than the second point while bending the tube. The tube is rotated about the second point continuously in a first direction. Tension is also applied.

3. **Claim 2** rejected under 35 U.S.C. 103(a) as being unpatentable over DE 29 00 672 A1 (hereinafter '672) in view of Barnes (US5896659) as applied to claim 1 above, and further in view of Venables et al. (US4542568).

'672/Barnes teach the invention cited above with the exception of wrapping a heat conductive member around the tube at a location between the first point and the intermediate point.

Venables et al. teach in figure 1, wrapping a heat conductive member around a tube at a location between a feed point and another subsequent point.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672/Barnes with wrapping a heat conductive member around a tube at a location between a feed point and another

subsequent point, in light of the teachings of Venables et al., in order to automatically apply the heat conductive member to the tube.

4. **Claims 7, 9-13 and 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over '672 in view of Barnes and Venables.

'672 teaches the invention cited above with the exception of unwrapping the tube from a

coil and wrapping a heat conductive member around the unwrapped section of the tube.

Barnes teaches unwrapping a tube from a coil.

Venables teaches wrapping a heat conductive member around an unwrapped section of a tube.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672 with unwrapping the tube from a coil, in light of the teachings of Barnes, in order to provide a continuous supply of tube length to be formed.

Furthermore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of '672/Barnes with wrapping a heat conductive member around a tube at a location between a feed point and another subsequent point, in light of the teachings of Venables et al., in order to automatically apply the heat conductive member to the tube.

Note that in figures 2-3 of '672, there are numerous bending points which could be considered third and fourth points respectively. The tube is simultaneously bent and rotated about the points.

***Response to Arguments***

5. Applicant's arguments filed 2/21/2007 have been fully considered but they are not persuasive.

6. Applicant disagrees with the Examiner's analysis in that the rotational points of the '672 reference differ from the bending points of the '672 reference, however, absent any evidence in support of Applicant's disagreement with the Examiner's interpretation of the reference the rejection is maintained for the reason's outlined above.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Application/Control Number:  
10/779,755  
Art Unit: 3726

Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571) 272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMK



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

12/21/07